

Work Order ID 117258

Thursday, May 01, 2014 10:47:37 AM

117258

Page 1

Item ID: D119-646-211 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Skidtube with Run-On Landing Wearplates LH
 Start Date: 4/25/14 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 4/25/14 Req'd Qty: 1.00 ***1*** Customer:
 Reference: REWORK -NCR14-3771

Approvals: Process Plan: *[Signature]* Date: 14-05-01 Tooling: _____ Date: _____
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____
 Run Start ***NR1***
 Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
IIN-D119-646	B

100 Document Control

100

DC

Doc.Control -USB or Paperwork

Memo

Photocopy bluefile & type labels per PPP D119-646-211
CHG004

0.00

CS
9-89

0.00

101

101

HandFinish

Hand Finishing

Memo

REMOVE FWD & AFT CAPS D2855-3
 CLEAN ALL SIKAFLEX OFF CAPS & SCRP
 IDENTIFY PER EACH TUBE CAPS
 WAS REMOVED (PN & B)
 wearplates- keep with Blw
 AS PAR ECN RS1015
 scrp hardware

PULL FROM STOCK:
1 X D119-646-211 B113480

0.00

0.00

DART		170-ABERDEEN ST FAIRFAXBURG ON CANADA K6A 1K7 TEL: 416-596-5200 www.dartcanada.com	
PATENT	US #5735484 / CA #2222184 / EURO #0828655		
PN	D119-646-211	CHG	CHG004
DESC	Skidtube STD, LH	STC	SR02024SE
LOT	B113480	STC	
MODEL	Agusta A119/AW119MKH	STC	
T&A APPROVAL 4-09-89		MADE IN CANADA	
		027284	

P10: 26625

IMI

CL 14/11/26

0

Receive

1X

SP14-12-8

[Signature] 14-9-16

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other _____ _____ _____
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Work Order ID 117258

Thursday, May 01, 2014 10:47:37 AM

117258

Page 2

Item ID: D119-646-211

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Skidtube with Run-On Landing Wearplates LH

Start Date: 4/25/14 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 4/25/14 Req'd Qty: 1.00 ***1***

Customer:

Reference: REWORK -NCR14-3771

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

NR1

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
102		0.00							
102									
Skidtubes									
Skidtubes	Memo	0.00							
	DRILL OUT & REMOVE FWD CROSS BOLT SPACERS D2579 IN DETAIL C ON DWG D3887								
103		0.00							
103									
Skidtubes									
Skidtubes	Memo	0.00							
	REPOSITION LOCATION OD HOLES AS PER DWG BUT USING +/- 0.005" TOL AND PER SYMMETRICAL IN QSI 018								
104		0.00							
104									
Skidtubes									
Skidtubes	Memo	0.00							
	TACK ONLY CROSS BOLT SPACER D2579 B: <u>123997</u> x 2								

DQA: _____ Date: _____



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Handling/Pre									
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Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs / ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Work Order ID 117258

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Thursday, May 01, 2014 10:47:37 AM

Item ID: D119-646-211 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Skidtube with Run-On Landing Wearplates LH
 Start Date: 4/25/14 Start Qty: 1.00 *1* Cust Item ID:
 Required Date: 4/25/14 Req'd Qty: 1.00 *1* Customer:
 Reference: REWORK -NCR14-3771

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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108		0.00							
108									
HandFinish	Memo	0.00							
Hand Finishing	TOUCH UP ALODINE AS PER QSI 005								

109		0.00							
109									
HandFinish	Memo	0.00							
Hand Finishing	TOUCH UP POWDERCOAT AS PER QSI 005								

111		0.00							
111									
HandFinish	Memo	0.00							
Hand Finishing	RE-ASSEMBLE ORIGINAL CAPS BACK ON TUBES								
	SIKAFLEX: M31574								
	EXP: 1516								

15-2-2014

1 15-4-15

START: 10:20
 OVEN T: 320°
 FINISH: 10:50

16th of 15/04/16

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Material									
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Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other _____ _____ _____
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FAULT CATEGORY

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Thursday, May 01, 2014 10:47:37 AM

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ML5 1504-28

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Picklist Print

Thursday, May 01, 2014 10:47:41 AM

Page 1

Work Order ID: 117258

117258

Parent Item: D119-646-211

D119-646-211

Parent Item Name: Skidtube with Run-On Landing Wearplates LH

Start Date: 4/25/14

Required Date: 4/25/14

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP RevA: New issue DD verified by:EC
12.09.12 as per ECN12-644 DD verf:JLM
raise to chg003 (ECN 12-675) DD verf:JLM
chg004 (ECN 13-534) DD verf:JLM

IPP Rev:B
IPP REV:C 12.11.05
IPP REV:D 13.03.20

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D119-646-211		Manufactured	No				Each	0.0000		1			

D119-646-211

Skidtube with Run-On Landing Wearplates LH

**

replace wearplates no wear to be found

1x D3849-041 / B120888 (x1) all 15/04/15

1x D3849-043 / B118842 (x1) all 15/04/15

AN3C-46A / M131367 (x8)

D2855-3 / B111898 (x2)

D3672-1 / B113581 (x2)

D34041 / B125626 (x16)

MS21043-3 / M130673 (v8)

MS 24694 - C52 M03
MS 24694 - C52 / M127059 (x2)

AN3C-5A / M131320 (x1)

15.5.6

all 15/04/15

DQA: _____ Date: _____



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QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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DART AEROSPACE LTD		Work Order:	
Description: Repair Scheme D119-646-241 Skid tubes FWD GHW holes do not align NCR 14-3771 For tubes in production and Returned tubes			
Drawing: D3887	Repair Scheme:	RS1015	
Part No: D119-646-241	Page:	1 of 1	
Batch No:	Qty:	1	

Step	Location	Procedure	By	Date	Qty
1	Finishing	Remove FWD & AFT caps D2855-3. Clean all sikaflex off cap & identify per each tube caps was removed (P/N & B#)			
2	Skidtube	Drill out & remove FWD Cross bolt spacers D2579 in Detail C on Dwg D3887	BE	14-09-16	1
3	Skidtube	Reposition location of holes as per Drawing but using <u>+/-0.005" tol</u> and per symmetrical in QSI 018	BE	14-09-16	1
4	Skidtube	TACK ONLY Cross bolt spacers D2579 B H3705 B 123997 x2	BE BE	14-09-16 14-09-24	1
5	QC	Location MUST be verified by QC Record Dims HERE <i>test fit with jig</i>	DAS 9 9-89	14-09-24	1
6	Skidtube	Weld as per QSI 004 A/R <u>M129399</u> Back Drill Grind welds flush & deburr	BE	14-09-26	1
7	QC	QC 10 & 5 Inspection ***TEST FIT GHW WHEELS*** <u>Pass</u> ☒	DAS 9 9-89	14-09-26	
8	Finishing	Touch up alodine as per QSI 005	<i>[Signature]</i>	15-2-20	①
9	Finishing	Touch up Powder coat per QSI 005	<i>[Signature]</i>	15-4-15	①
10	Finishing	Re-assemble original caps back on tubes Sikaflex B <u>MU31571</u> exp <u>15/10</u>	<i>[Signature]</i> 68-6 SL	15/11/16	dc
11	QC	QC 3 inspect	DAS 9 9-89	15-04-22	
12	QC	QC 5 inspect	DAS 9 9-89	15-04-22	
13	QC	QC21			

Rev	Date	Change Description	Prepared	Checked	Approved
A	14.04.29	New Issue	ED		

U:\Admin\Forms\Repairschemb1A.doc

Rev. A

Linda Lacelle

From: David Shepherd
Sent: May-04-14 12:21 PM
To: Patrick Smith; Kim Johnston
Cc: Bill Beckett; Nigel Forbes; Linda Lacelle; Mike Petsche; Marc Bellavance; Sian Willems
Subject: RE: RS1015-RevA
Attachments: RS1015-RevA.DOC

Pat,

Sorry for the slow reply. Busy week.

My recommendation is for you to bring the tubes in and double check the fit of the wheels.

If the fit is OK, then you are done.

If the fit is not OK and you can move the holes by 0.030" to get them to fit, you can do the attached repair.

If the holes are out by more than 0.030", then the tube is scrap.

I recall that some of the holes were off by up to 3/16".

We should NOT be welding crossbolt spacers into huge slots that we backfill with weld.

Regards,
David

From: Patrick Smith
Sent: April-29-14 7:00 AM
To: Kim Johnston
Cc: David Shepherd
Subject: RS1015-RevA

Hi Kim,

We required a new RA for repairing the AW119 Skid Tubes, Eric prepared it and I reviewed it.

David,

Could you please review, this is for the problem with the AW119 Skidtubes,



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID: PO26625

Purchase Order Date: 11/26/2014

PO Print Date: 11/26/2014

Page Number 1 of 3

Order From :

VC-IMI001

Ship To : DART AEROSPACE LTD

IMI MANUFACTURING INC.
772 MAIN ST. E.P.O. BOX 3
HAWKESBURY, ON K6A 2R4
CA

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FA-100

Contact Name

Vendor Phone 613 675 1208 Ext.223

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Ship To Contact

Terms

Net 30

Ship To Phone

Currency

CAD

Ship Via:

FOB

Destination-Collect

Ship Acct:

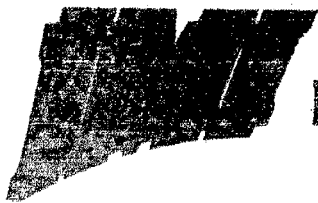
Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	117257	D119-646-211 SKIDTUBE	12/19/2014 Yes 12/19/2014		1.00	\$412.50	\$412.50
	SKIDTUBE TO BE STRIP WITH STRIPPER P/N: KSGAR343 FROM BERTRAND SUPPLIES						
Line Total:							\$412.50
2	117258	D119-646-211 SKIDTUBE	12/19/2014 Yes 12/19/2014		1.00 ✓	\$412.50	\$412.50
	SAME AS ABOVE						
Line Total:							\$412.50
3	118472	D119-646.241 SKIDTUBE	12/19/2014 Yes 12/19/2014		1.00	\$412.50	\$412.50
	SAME AS ABOVE						

SP14-12-8

PO Instructions: PROCUREMENT QUALITY CLAUSES
A000 CLAUSES NOT REQUIRED

Note:

11/26/2014



Manufacturing Inc.

2056 County Rd #4, L'Original, Ontario K0b 1K0

Phone 613-675-1208

Fax 613-675-1250

PACKING SLIP

TO: Dart Aerospace Ltd
1270 Aberdeen Street
Hawkesbury, On K6A 1K7

Date: December 8/2014

SALESPERSON	JOB	PO NUMBER :	NOTE:
	14-0574-22	26625	

QTY ORDER	DESCRIPTION	QTY SHIP	LINE TOTAL
1	Skidtubes to be Strip with Stripper	1	
2014-12-8			

Client: (PRINT NAME) _____ (SIGNATURE) _____

THANK YOU FOR YOUR BUSINESS!